

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6 HOUSTON BRANCH 10625 FALLSTONE RD. HOUSTON, TEXAS 77099 2003 SEP -5 PM 2: 01
AR/OK/TX BRANCH

### MEMORANDUM

Date:

September 03, 2003

Subject:

Contract Laboratory Program Data Review

From.

Marvelyn Humphrey, ESAT Regional PD, 6MD-HE

To:

V. Malott, SF-AP

Site: JONES ROAD GROUND WATER PLUME

Case#: 32011

SDG#: F0LJ5

The EPA Region 6 Houston Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable for regional use. Problems, if any, are listed in the report narrative.

If you have any questions regarding the data review report, please call me at (281) 983-2140.

### Attachments

cc: R. Flores, Region 6 CLP/TPO
M. El-Feky, Region 6 Data Coordinator
Files (2)



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# ONTINUATION PAGE LOCKHEED MARTIN SERVICES GROUP ESAT REGION 6 10625 FALLSTONE ROAD HOUSTON, TX 77099

### **MEMORANDUM**

**DATE:** August 28, 2003

TO: Marvelyn Humphrey, ESAT PO, Region 6

FROM: Tom C.H. Chiang, ESAT Program Manager, Region 6 Junior.

SUBJECT: CLP Data Review

**REF:** TDF #6-03-198A ESAT #0-0340

ESAT Contract No. 68-W-01-030

Attached is the data review summary for Case #\_\_32011 \_\_

SDG # FOLJ5

Site Jones Road Ground Water Plume

### COMMENTS:

### I. CONTRACTUAL ASSESSMENT OF THE DATA PACKAGE

- A. The CCS and hardcopy reviews detected the contractually noncompliant items below.
  - 1. The cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene concentrations for sample F0LK0 exceeded the upper calibration limit, but the required diluted reanalysis was not performed (OLM04.2, p. D-44/VOA, sec. 11.3.8). The laboratory noted that only one vial of sample was received for sample F0LK0. However, they failed to notify this problem to SMO. These three compound results for sample F0LK0 were qualified because of this deficiency.
  - 2. The cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene concentrations for sample F0LJ5 exceeded the upper calibration limit, but the laboratory failed to analyze an instrument blank before proceeding with the analysis of sample F0LJ7 (OLM04.2, p. D-48/VOA, sec. 12.1.2.4). The cis-1,2-dichloroethene result for sample F0LJ7 was qualified because of this deficiency.

# LOCKHEED MARTIN SERVICES GROUP ESAT REGION 6 10625 FALLSTONE ROAD HOUSTON, TX 77099

## **MEMORANDUM**

Attached is the data review summary for Case # 32011 SDG # F0LJ5 Site Jones Road Ground Water Plume

### COMMENTS:

B. The hardcopy review found the contractually noncompliant item below that CCS is not expected to detect.

The data package was one working day late for the contractual seven-day turnaround time requirement.

## II. TECHNICAL USABILITY ASSESSMENT OF THE DATA PACKAGE

The total number of sample results reviewed was 480 for this data package. Some results were qualified because of technical problems. The significant problems are addressed below.

- A. The instrument had poor response for target compound 1,2-dibromo-3-chloropropane.
- B. Three results were qualified for sample FOLKO because the concentrations exceeded the upper calibration limit.

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 6

# HOUSTON BRANCH 10625 FALLSTONE ROAD HOUSTON, TEXAS 77099

# ORGANIC REGIONAL DATA ASSESSMENT

CASE NOLABORATORYCONTRACT#SDG#_SOW#_ACCT#SF#SF#SF#SF#SF#SF#SF#S	CEIMIC 68-W03-018 F0LJ5 OLM04.3		10 Water
SAMPLE NO.	F0LJ5 F0LJ6 F0LJ7 F0LJ8 F0LJ8 DATA A	KO FOLK4 K1	
3. CALIBRAT 4. BLANKS 5. SMC/SURF 6. MATRIX S 7. OTHER QC 8. INTERNAL 9. COMPOUND	NE/INSTR. PERFORMINE/INSTR. PERFORMINE/IONS ROGATES BPIKE/DUPLICATE C L STANDARDS (IS) D ID/QUANTITATIONANCE/COMPLETENESS	7 C	D

- O = Data had no problems.
- M = Data qualified due to major or minor problems.
- Z = Data unacceptable.
- NA = Not applicable.

ACTION ITEMS: Three target compound concentrations for sample FOLKO exceeded the upper calibration limit, but the required diluted reanalysis was not performed. The laboratory failed to analyze one required instrument blank. The data package arrived one working day late.

AREA OF CONCERN: The instrument had poor response for target compound 1,2-dibromo-3-chloropropane. Three results were qualified for sample FOLKO because the concentrations exceeded the calibration limit. The cis-1,2-dichloroethene result was qualified for sample FOLJ7 because of possible instrument contamination.

# NOTABLE PERFORMANCE:

# COMMENTS/CLARIFICATIONS REGION 6 CLP QA REVIEW

CAS 32011 SDG F0LJ5 SITE Jones Road Ground Water Plume LAB CEIMIC

The following is a summary of sample qualifiers used by Region 6 in reporting this CLP data:

No.	<u> Acceptable </u>	_Provisional_	<u> Unacceptable</u>
*			
VOA		10	

COMMENTS: This SDG, contracted under OLM04.3, consists of seven water samples, one trip blank sample, one field blank sample, and one rinsate sample for RAS VOA analysis. The OTR/COC Records designated sample F0LJ8 as the laboratory QC sample, sample F0LK2 as a trip blank, sample F0LK3 as a field blank sample, and sample F0LK4 as a rinsate sample. The OTR/COC Records also indicated that sample F0LK1 was a field duplicate sample, but the identification of the matching sample of the pair was unavailable at the time of data review. The data package contained the contractually noncompliant items below.

- The cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene concentrations for sample F0LK0 were above the upper calibration range, but the required diluted reanalysis was not performed.
- The laboratory failed to analyze one required instrument blank.
- The data package arrived one working day late for the contractual seven-day turnaround time requirement.

As requested by the TDF, level 2 review was performed for this data package with the exception of the data for the target compounds of concern which were reviewed at Level 3 (full review). Vinyl chloride, trans/cis-1,2-dichloroethene, and tetrachloroethene are the target compounds of concern with the desired detection level of 10  $\mu$ g/L. All samples met the desired detection level. The target compounds of concern reported at concentrations above the desired detection level were vinyl chloride, trans-1,2-dichloroethene, cis-1,2-dichloroethene, and/or tetrachloroethene in five samples. Samples FOLJ5 and FOLK1 were diluted 100X and reanalyzed because of high cis-1,2dichloroethene, tetrachloroethene, and trichloroethene concentrations (up to 3900  $\mu g/L$ ). The cis-1,2-dichloroethene result for sample F0LJ7 was qualified as estimated and biased high because of possible instrument carryover contamination. cis-1,2-dichloroethene and tetrachloroethene results for sample FOLKO were qualified as estimated because the concentrations exceeded the upper calibration limit.

The compound not designated as a compound of concern but reported at concentrations above the CRQL was trichloroethene in four samples. The trichloroethene result for sample FOLKO was

# ONTINUATION PAGE ORGANIC QA REVIEW

CAS 32011 SDG FOLJ5 SITE Jones Road Ground Water Plume LAB CEIMIC

qualified as estimated because its concentration exceeded the calibration limit. The 1,2-dibromo-3-chloropropane QL's for all samples were qualified as estimated and biased low because the instrument had poor response for this compound.

Some results are provisional for all samples because of problems with calibration and laboratory contamination. The technical usability of all reported sample results is indicated by ESAT's final data qualifiers in the Data Summary Table. An Evidence Audit was conducted for the Complete Sample Delivery Group File (CSF), and the audit results were reported on the Evidence Inventory Checklist.

NOTE: THE FOLLOWING REVIEW NARRATIVE ADDRESSES BOTH CONTRACTUAL ISSUES (BASED ON THE STATEMENT OF WORK) AND TECHNICAL ISSUES (BASED ON THE NATIONAL FUNCTIONAL GUIDELINES). THE ASSESSMENT MADE FOR EACH QC PARAMETER IS SOLELY BASED ON THE TECHNICAL DATA USABILITY, WHICH MAY NOT NECESSARILY BE AFFECTED BY CONTRACTUAL PROBLEMS. THE ASSESSMENTS ARE DEFINED BELOW.

Acceptable = No results were qualified for any problem

associated with this QC parameter.

Provisional = Some results were qualified because of problems

associated with this QC parameter.

Unusable = All results are unusable because of major problems associated with this QC parameter.

associated with this ge parameter.

- 1. Holding Times: Acceptable. All samples met contractual and technical holding time criteria.
- 2. Tuning/Performance: Acceptable. All BFB analyses met GC/MS tuning criteria.
- 3. Calibrations: Provisional. All calibrations met contractual criteria. Three target analytes failed technical %D calibration criteria. The reviewer did not qualify any associated compound results because they were not detected in the samples. The RRF10 and RRF20 of the initial calibration and the RRF50 of one continuing calibration for 1,2-dibromo-3-chloropropane were below the technical minimum RRF limit. The reviewer did not reject the associated sample results because the calibration data demonstrated that the instrument had no problem detecting 1,2-dibromo-3-chloropropane at the CRQL. Instead, the reviewer qualified the QL's as estimated and biased low for 1,2-dibromo-3-chloropropane in all samples because of the poor instrument response for this compound.

The cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene concentrations for sample F0LK0 exceeded the upper calibration limit, but the required diluted reanalysis was

# ONTINUATION PAGE ORGANIC QA REVIEW

CAS 32011 SDG FOLJ5 SITE Jones Road Ground Water Plume LAB CEIMIC

not performed. The laboratory noted that only one vial of sample was received for sample LOLKO. The reviewer qualified as estimated these three compound results for sample FOLKO because their concentrations exceeded the upper calibration limit.

4. Blanks: Provisional. The method and storage blanks met the contractual requirements. Methylene chloride, methylcyclohexane, tetrachloroethene, and 1,2,4-trichlorobenzene were detected in the blanks. The methylene chloride detected in the storage blank was probably introduced during the analysis, not sample storage. The laboratory "B"-flagged results below the CRQL's should be considered as undetected, and the results were "U"-flagged at the CRQL's on the DST because of possible laboratory contamination.

The cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene concentrations for sample F0LJ5 were above the upper calibration limit, but the laboratory failed to analyze an instrument blank before proceeding with the analysis of sample F0LJ7. The cis-1,2-dichloroethene result for sample F0LJ7 was qualified as estimated and biased high because of possible instrument carryover contamination. The instrument blanks VIBLKLL and VIBLKLM met the contractual requirements.

Field/Trip Blanks: Field blank sample F0LK3 and trip blank sample F0LK2 were associated with all field samples in this SDG. Only methylene chloride was detected at concentrations below the CRQL in these blank samples. However, these methylene chloride concentrations were solely attributed to laboratory contamination. This indicated that there was no field or shipping contamination.

<u>Rinsate:</u> Tetrachloroethene was detected at a concentration below the CRQL in rinsate sample F0LK4. However, the assessment for sampling equipment contamination can not be performed because information associating the samples with this rinsate sample is not available.

- 5. System Monitoring Compounds (SMC's)/Surrogates: Acceptable. All SMC recoveries were within the QC limits.
- 6. Matrix Spike/Matrix Spike Duplicate (MS/MSD): Acceptable. The MS/MSD results met the QC criteria for precision and %recovery.
- 7. Other QC:

Field Duplicate: Not Applicable.

8. Internal Standards (IS): Acceptable. Internal standard performance met the QC criteria for all analyses.

# ORGANIC QA REVIEW CONTINUATION PAGE

CAS 32011 SDG FOLJ5 SITE Jones Road Ground Water Plume LAB CEIMIC

- 9. Compound Identity/Quantitation: Acceptable. The target compounds trans-1,2-dichloroethene, cis-1,2-dichloroethene, vinyl chloride, trichloroethene, and/or tetrachloroethene were reported at concentrations above the CRQL's in five samples. Samples F0LJ5 and F0LK1 were diluted 100X and reanalyzed because of the high cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene concentrations (up to 3900  $\mu$ g/L). The reported analytes met compound identification criteria.
- 10. Performance/Completeness: Acceptable. The data package was complete but had one reporting error, and the laboratory was contacted for resubmission (see FAX Record Log).
- 11. Overall Assessment: Some results are provisional for all samples because of problems with calibration and laboratory contamination.

### HEADER DEFINITIONS FOR ORGANIC EXCEL DST

CASE: Case Number

SDG: SDG Number

EPASAMP: EPA Sample Number

LABID: Laboratory File/Sample ID

MATRIX: Sample Matrix

ANDATE: Sample Analysis Date

ANTIME: Sample Analysis Time

CASNUM: Compound CAS Number

ANALYTE: Compound Name

CONC: Compound Concentration

LABQUAL: Laboratory Qualifier

UNITS: Concentration Units

CRQL: Contract Required Quantitation Limit Value

CRQLLBL: Contract Required Quantitation Limit Label

SMPDATE: Sampling Date

VALDQAL: Region 6 Organic Data Validation Qualifier (see Organic

Data Qualifier Definitions on the next page)

STATLOC: Station Location

Disclaimer: ESAT verified the accuracy of the information

reported in the Excel DST only for the following data fields: CASE, SDG, EPASAMP, MATRIX, ANALYTE, CONC, UNITS, and VALDQAL. The data qualifiers in

the VALDQAL column indicate the technical

usability of the reported results.

### ORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the Data Summary Table.

- U Not detected at reported quantitation limit.
- N Identification is tentative.
- J Estimated value.
- L Reported concentration is below the CRQL.
- M Reported concentration should be used as a raised quantitation limit because of interferences and/or laboratory contamination.
- R Unusable.
- <sup>^</sup> High biased. Actual concentration may be lower than the concentration reported.
- Low biased. Actual concentration may be higher than the concentration reported.
- F+ A false positive exists.
- F- A false negative exists.
- This result may be high biased because of laboratory/field contamination. The reported concentration is above 5X or 10X the concentration reported in the method/field blank.
- UJ Estimated quantitation limit.
- T Identification is questionable because of absence of other commonly coexisting pesticides.
- \* Result not recommended for use because of associated QA/QC performance inferior to that from other analysis.
- W The result should be used with caution. The result was reported on a dry weight basis although the sample did not conform to the EPA Office of Water definition of a soil sample because of its high water content (>70% moisture).

CAS	E SDG	EPASAMP	LABID	MATRIX	ANDATE	ANTIME	CASNUM	ANALYTE	. Ay	CONC	LABQUAL	UNITS	CRQL	CRQLLBL	SMPDATE	VALDQAL	STATLOC
3201	1 FOLUS	5 FOLJ5	LP855	W	08/06/2003	12:38	75718	DICHLORODIFLUOROMETHANE		10	U	UG/L	10	U 🙀	08/04/2003	U	TX11600(1)
, 3201	1 FOLJS	FOLJ5	LP855	W	08/06/2003	12:38	74873	CHLOROMETHANE		10	U	UG/L	10	U	08/04/2003	U ·	TX11600(1)
3201	1 FOLJS	5 FOLJ5	LP855	W	08/06/2003	12:38	75014	VINYL CHLORIDE		110		UG/L	10		08/04/2003		TX11600(1)
3201	1 FOLJS	FOLJ5	LP855	W	08/06/2003	12:38	74839	BROMOMETHANE		10	U	UG/L	10	U	08/04/2003	U	TX11600(1)
3201	1 FOLJS	5 FOLJ5	LP855	W	08/06/2003	12:38	75003	CHLOROETHANE		10	U	UG/L	10	U	08/04/2003	U	TX11600(1)
3201	1 FOLJS	5 FOLJ5	LP855	W	08/06/2003		75694	TRICHLOROFLUOROMETHANE		10	U	UG/L	10	U	08/04/2003		TX11600(1)
3201	1 FOLJS	5 FOLJ5	LP855	W	08/06/2003	12:38	75354	1.1-DICHLOROETHENE		2	J	UG/L	10		08/04/2003	LJ	TX11600(1)
3201	1 FOLJS	5 FOLJ5	LP855	W	08/06/2003	12:38	76131	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	THANE	10	U	UG/L	10	U	08/04/2003	U	TX11600(1)
3201	1 FOLUS	5 FOLJ5	LP855	W	08/06/2003	12:38	67641	ACETONE		10	U	UG/L	10	U	08/04/2003	U	TX11600(1)
3201	1 FOLJS	FOLJ5	LP855	W	08/06/2003	12:38	75150	CARBON DISULFIDE		10	U	UG/L	10	U	08/04/2003	U	TX11600(1)
3201	1 FOLJS	5 FOLJ5	LP855		08/06/2003		79209	METHYL ACETATE		10	U	UG/L	10	U	08/04/2003	U	TX11600(1)
	1 FOLJS	_	LP855		08/06/2003		75092	METHYLENE CHLORIDE		10	U		10	U	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		156605	TRANS-1,2-DICHLOROETHENE		9	J		10		08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		1634044	METHYL TERT-BUTYL ETHER		5	J	UG/L	10		08/04/2003		TX11600(1)
	1 FOLUS		LP855		08/06/2003		75343	1,1-DICHLOROETHANE		10	U		10	U	08/04/2003	U	TX11600(1)
	1 FOLUS		LP855		08/06/2003		156592	CIS-1,2-DICHLOROETHENE		4200	Ē		10		08/04/2003	•	TX11600(1)
	1 FOLJS		LP855		08/06/2003		78933	2-BUTANONE		10	U		10	U	08/04/2003	U	TX11600(1)
	1 FOLJS		LP855		08/06/2003		67663	CHLOROFORM		10	,U		10	Ū	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		71556	1,1,1-TRICHLOROETHANE		10	Ü		10	U	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		110827	CYCLOHEXANE		10	Ū	UG/L	10	U	08/04/2003	U	TX11600(1)
	1 FOLJS		LP855	W	08/06/2003		56235	CARBON TETRACHLORIDE		10	Ū	UG/L	10	U	08/04/2003	U	TX11600(1)
	1 FOLUS		LP855		08/06/2003		71432	BENZENE		10	Ū		10	Ū.	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		107062	1,2-DICHLOROETHANE		10	Ü		10	Ú **·· .	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		79016	TRICHLOROETHENE		1500	Ē		10	-7	08/04/2003	•	TX11600(1)
	1 FOLJS		LP855		08/06/2003		108872	METHYLCYCLOHEXANE		10	Ū		10	U	08/04/2003	U	TX11600(1)
	1 FOLUS		LP855	W	08/06/2003		78875	1,2-DICHLOROPROPANE		10	Ü		10	υ .	08/04/2003	U	TX11600(1)
	1 FOLJS		LP855		08/06/2003		75274	BROMODICHLOROMETHANE		10	Ū		10	Ū	08/04/2003		TX11600(1)
	1 FOLJS		LP855	W	08/06/2003			CIS-1,3-DICHLOROPROPENE		10	Ū		10	Ü	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		108101	4-METHYL-2-PENTANONE		10	ŭ		10	Ū	08/04/2003		TX11600(1)
	1 FOLUS		LP855		08/06/2003		108883	TOLUENE		2	J		10	_	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003			TRANS-1,3-DICHLOROPROPENE		10	U		10	U	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		79005	1,1,2-TRICHLOROETHANE		10	Ü		10	Ü	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		127184	TETRACHLOROETHENE		5700	E	UG/L	10		08/04/2003	•	TX11600(1)
	1 FOLJ		LP855		08/06/2003		591786	2-HEXANONE	•	10	Ū	_	10	U	08/04/2003	U	TX11600(1)
	1 FOLJ		LP855		08/06/2003		124481	DIBROMOCHLOROMETHANE		10	Ü		10	Ú	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		106934	1,2-DIBROMOETHANE		10	U		10	U ·	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		108907	CHLOROBENZENE		10	Ŭ		10	Ū	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		100414	ETHYLBENZENE		10	Ü		10	Ü	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		1330207	XYLENES (TOTAL)		10	Ŭ		10	Ū	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		100425	STYRENE		10	Ü		10	-	08/04/2003		TX11600(1)
	1 FOLU		LP855		08/06/2003		75252	BROMOFORM		10	ŭ		10	Ū	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		98828	ISOPROPYLBENZENE		10	Ü		10	Ü	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		79345	1,1,2,2-TETRACHLOROETHANE		10	ŭ		10	Ü	08/04/2003		TX11600(1)
	1 FOLJS		LP855		08/06/2003		541731	1,3-DICHLOROBENZENE		10	Ŭ		10	Ŭ	08/04/2003		TX11600(1)
	1 FOLUS		LP855		08/06/2003		106467	1,4-DICHLOROBENZENE		10	ŭ		10	Ū	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		95501	1,2-DICHLOROBENZENE		10	ŭ		10-	Ū	08/04/2003		TX11600(1)
	1 FOLUS		LP855		08/06/2003		96128	1,2-DIBROMO-3-CHLOROPROPANE		10	Ŭ		10	Ū	08/04/2003		TX11600(1)
	1 FOLJ		LP855		08/06/2003		120821	1,2,4-TRICHLOROBENZENE		10	Ü		10	Ū	08/04/2003		TX11600(1)
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